



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 10/039,541      | 01/02/2002  | Lawrence A. Clevenger | YOR9-2001-0508-US1  | 9395             |

28211 7590 11/18/2002

FREDERICK W. GIBB, III  
MCGINN & GIBB, PLLC  
2568-A RIVA ROAD  
SUITE 304  
ANNAPOLIS, MD 21401

EXAMINER

LUK, LAWRENCE W

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 11/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/039,541

Applicant(s)  
Clevenger et al.

Examiner  
Lawrence Luk

Art Unit  
2838



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, and 11-20 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 22, 2002 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit: 2838

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 11 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hundt et al. (5,451,715).

In regard to claim 1, Hundt et al. shows an integrated circuit package with at least one battery (refer to col.3, lines 21-23); at least one integrated circuit chip powered by said at least one battery (refer to col.2, lines 58-59); and a package connected to said at least one battery and said at least one integrated circuit chip (refer to col.2, lines 56-64).

In regard to claim 2, Hundt et al. shows the package connects to said at least one integrated circuit chip through an interior portion of the package (refer to col.3, lines 13-16).

In regard to claim 11, Hundt et al. shows an integrated circuit chip (refer to col.2, lines 58-59); a battery directly connected to said integrated circuit chip (refer to col.2, lines 63-64 and col.3, lines 3-8).

In regard to claim 16, Hundt et al. shows a package (refer to col.2, line 56); an integrated circuit chip mounted on the package (refer to col.2, lines 58-59); and a battery directly connected to the package and electrically connected to the integrated circuit chip (refer to col.2, lines 63-65 and col.3, lines 3-9).

Art Unit: 2838

3. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Bolotin et al. (6,206,705).

In regard to claim 7, Bolotin et al. shows the integrated circuit package comprises a multi-chip module (refer to col.2, lines 5-7); at least one battery connected to the multi-chip module (refer to col.2, lines 60-64); and at least one integrated circuit chip to the battery, wherein said integrated circuit chip is powered by the battery (refer to col.3, lines 31-34 and col.2, lines 62-64).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al. (5,451,715) in combination with Bond et al. (5,724,728).

In regard to claim 3, Hundt et al. discloses the elements as discussed above, except for a battery that overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the package. Bond et al. shows a battery that overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the package (refer to Fig. 1B and col.4, lines 38-56).

Art Unit: 2838

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Hundt et al. to include a battery that overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the package as taught by Bond et al. for the purpose to being electrically connected between a battery and the at least one integrated circuit chip.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al. (5,451,715) in combination with Bond et al. (5,724,728) as discussed above, and further in combination with Tuttle et al. (5,779,839). Hundt et al. and Bond et al. discloses the elements as claimed, except for at least one battery further comprises a stack of connected batteries.

Tuttle et al. shows at least one battery further comprises a stack of connected batteries, refer to col.14, lines 44-49.

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Hundt et al. and Bond et al. to include at least one battery further comprises a stack of connected batteries as taught by Tuttle et al. for the purpose of stacked battery cells.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al. (5,451,715) in combination with Tuttle (5,787,174).

Art Unit: 2838

Hundt et al. discloses the elements as discussed above, except for at least one battery that connects to an underside of the package. Specifically, Tuttle shows at least one battery connects to an underside of the package (refer to Fig. 2 and col.3, line 13 to 22).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Hundt et al. to include at least one battery that connects to an underside of the package as taught by Tuttle for the purpose to ease of concealed.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolotin et al. (6,206,705) in combination with Hundt et al. (5,451,715).

In regard to claim 8, Bolotin et al. discloses the elements as discussed above, except for at least one integrated circuit chip through an interior portion of the multi-chip module. Hundt et al. shows at least one integrated circuit chip through an interior portion of the package (refer to col.3, lines 13-16).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Bolotin et al. to include at least one integrated circuit chip through an interior portion of the package as taught by Hundt et al. for the purpose to implemented of battery powered integrated circuits.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolotin et al. (6,206,705) in combination with Bond et al. (5,724,728).

Art Unit: 2838

In regard to claim 9, Bolotin et al. discloses the elements as discussed above, except for a battery that overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the multi-chip module. Bond et al. shows a battery that overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the package (refer to Fig. 1B and col.4, lines 38-56).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Bolotin et al. to include a battery overhangs the integrated circuit chip, wherein the integrated circuit chip connects to an upper indent portion of the package as taught by Bond et al. for the purpose to increase the density of integrated circuits.

10. Claims 12-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al. (5,451,715) in combination with Burstein et al. (6,278,264).

In regard to claims 12 and 13, Hundt et al. discloses the elements as discussed above, except for the solder connections between the battery and an integrated circuit chip. Specifically, Burstein et al. shows the solder connections between the battery and an integrated circuit chip (refer to Fig. 2 and col.5, lines 9 to 10 and lines 57-64 ).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Hundt et al. to include the solder connections between the battery and an integrated circuit chip as taught by Tuttle for the purpose of an integrated circuit and a battery is electrically couple by solder balls.

Art Unit: 2838

In regard to claim 14, Hundt et al. shows a package at least one of the battery and an integrated circuit chip (refer to col.2, lines 56-65).

In regard to claim 15, Burstein et al. shows the battery is directly connected to the package (refer to col.5, lines 9-10).

In regard to claim 17, Hundt et al. shows a battery is held adjacent to said integrated circuit chip by the package (refer to Fig.1 and col.3, lines 3-8).

In regard to claim 18, Burstein et al. shows a package is between the battery and an integrated circuit chip (refer to col.5, lines 9-10).

In regard to claim 19, Hundt et al. shows a battery is electrically connected to said integrated circuit chip through the battery (refer to Fig.1 and col.3, lines 3-8).

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al. (5,451,715) in combination with Tuttle et al. (5,779,839).

In regard to claim 20, Hundt et al. discloses the elements as discussed above, except for the multiple batteries stacked on the package. Specifically, Tuttle et al. shows the multiple batteries stacked on the package (refer to col.14, lines 45-47 ).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Hundt et al. to include the multiple batteries stacked on the package as taught by Tuttle et al. for the purpose to provided in the detachable module.



Art Unit: 2838

*Allowable Subject Matter*

12. Claims 5 and 10 are objected to as being dependent upon a rejected base claim. The prior art of record fails to teach or reasonably suggest that at least one battery connects to a pair of opposed upright ends of the package. Claims 5 and 10 would be allowable if rewritten in independent form including all of the limitations of the base claim.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Luk at telephone number (703)305-0617. Any inquiry of a general nature or relating to the status of this application proceeding should be directed to the Group receptionist whose telephone number is (703)305-1782.

LWL

Nov 13, 2002

*Lawrence Luk*  
*examiner*  
*11/13/02*